

## CLAIMS

1.- A miniaturised electro-optical device characterised in that it comprises:

- 5           - a first zone facing a second zone,
- a first condenser plate,
- a second condenser plate arranged in said second zone, in which said second plate is smaller than or equal to said first condenser plate,
- an intermediate space arranged between said first zone and said  
10       second zone,
- a conductive element arranged in said intermediate space, said conductive element being mechanically independent from said first zone and second zone and being suitable for effecting a movement across said intermediate space depending on voltages present in said first and second  
15       condenser plates,
- a first inlet/outlet point of light from an optical circuit, a second inlet/outlet point of said optical circuit, arranged in such a way as to allow the passage of light therebetween,
- at least one first stop, where said conductive element is suitable  
20       for establishing contact with said first stop and where said conductive element modifies the state of passage of light between said first inlet/outlet point and said second inlet/outlet point when it is in contact with said first stop.

25           2.- The electro-optical device of claim 1, characterised in that said first condenser plate is in said second zone.

          3.- The electro-optical device of claim 1, characterised in that said first condenser plate is in said first zone.

30           4.- The electro-optical device of any of claims 1 to 3, characterised in that said first stop is arranged between said second zone and said conductive element.

5.- The electro-optical device of claim 3 or claim 4, characterised in that it comprises, additionally, a third condenser plate arranged in said second zone, where said third condenser plate is smaller than or equal to  
5 said first condenser plate, and where said second and third condenser plates are, together, larger than said first condenser plate.

6.- The electro-optical device of one of claims 3 to 5, characterised in that it comprises, additionally, a third condenser plate arranged in said  
10 second zone and a fourth condenser plate arranged in said first zone, where said first condenser plate and said second condenser plate are equal to each other, and said third condenser plate and said fourth condenser plate are equal to each other.

15 7.- The electro-optical device of claim 6, characterised in that said first, second, third and fourth condenser plates are all equal to each other.

8.- The electro-optical device of claim 6 or claim 7, characterised in that it comprises, additionally, a fifth condenser plate arranged in said first  
20 zone and a sixth condenser plate arranged in said second zone, where said fifth condenser plate and said sixth condenser plate are equal to each other.

9.- The electro-optical device of any of claims 1 to 8, characterised  
25 in that it comprises a second stop between said first zone and said conductive element.

10.- The electro-optical device of claim 9, characterised in that it comprises a third inlet/outlet point and a fourth inlet/outlet point arranged  
30 between said first zone and said conductive element such that said conductive element modifies the state of passage of light from a second optical circuit when in contact with said second stop.

11.- The electro-optical device of any of claims 1 to 10,  
characterised in that each of the assemblies of said condenser plates  
arranged in each of said first zone and second zone has a central  
symmetry relative to a centre of symmetry, where said centre of symmetry  
5 is superimposed on the centre of masses of said conductive element.

12.- The electro-optical device of any of claims 1 to 11,  
characterised in that the assembly of said condenser plates arranged in  
each of said first zone and second zone has central asymmetry, thereby  
10 generating a moment of forces relative to the centre of masses of said  
conductive element.

13.- The electro-optical device of any of claims 1 to 12,  
characterised in that said conductive element has rounded external  
15 surfaces.

14.- The electro-optical device of claim 13, characterised in that  
said conductive element is cylindrical.

20 15.- The electro-optical device of claim 13, characterised in that  
said conductive element is spherical.

16.- The electro-optical device of any of claims 1 to 15,  
characterised in that said conductive element has an upper face and a  
25 lower face, said upper and lower faces being perpendicular to said  
movement of said conductive element, and at least one side face, where  
said side face has slight protuberances.

17.- The electro-optical device of any of claims 1 to 16,  
30 characterised in that said conductive element is hollow.

18.- The electro-optical device of claim 2, characterised in that said first condenser plate and said second condenser plate have the same surface area.

5            19.- The electro-optical device of claim 3, characterised in that said first condenser plate has a surface area which is equal to or double the surface area of said second condenser plate.

20.- Use of an electro-optical device according to any of claims 1 to  
10 19, as an accelerometer.

21.- Use of an electro-optical device according to any of claims 1 to 19, as a tiltmeter.

15            22.- Use of an electro-optical device according to any of claims 1 to 19, as a detector of Coriolis forces.

23.- Use of an electro-optical device according to any of claims 1 to 19, as a pressure sensor.

20            24.- Use of an electro-optical device according to any of claims 1 to 19, as a microphone.

25            25.- Use of an electro-optical device according to any of claims 1 to 19, as a flowrate sensor.

26.- Use of an electro-optical device according to any of claims 1 to 19, as a temperature sensor.

30            27.- Use of an electro-optical device according to any of claims 1 to 19, for acoustic applications.

28.- Use of an electro-optical device according to any of claims 1 to 19, as a gas sensor.

29.- Use of an electro-optical device according to any of claims 1 to 5 19, for the manufacture of an optical switching matrix.

30.- Use of an electro-optical device according to any one of claims 1 to 19, for projecting images.